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Ellipsis and the position of subjects

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1. Where are subject depictives?

Adjunct predicates divide into two classes according to whether they are construed with the object or the subject, as in (1) and (2). Adopting Roberts' 1988b terms, I refer to such adjunct predicates as object depictives (ODs) and subject depictives (SDs). While there is agreement that ODs are inside VP, the position of SDs remains problematic. Earlier analyses position SDs outside of VP (Williams 1980, Rothstein 1983), but recent proposals place SDs in VP (McNulty 1988, Roberts 1988b, Rapoport 1989).

1. Lucy submitted the manuscript {unfinished/in a mess}. [OD]
2. Lucy played the concerto {nude/in a bad mood}. [SD]

Wherever SDs are, they are higher than ODs. This is based on the fact that if both occur, OD precedes SD (Rothstein 1983, Rochemont & Culicover 1990):

3a. Lucy submitted the manuscript [$_{OD}$ unfinished] [$_{SD}$ in a bad mood].
b. *Lucy submitted the manuscript [$_{SD}$ in a bad mood] [$_{OD}$ unfinished].

1.1 *do too* and *so do* ellipsis

The motivation for pushing SDs down into VP is based on evidence from ellipsis. The observation is that both ODs and SDs are construed as part of the elision site (Andrews 1982). This is true of both *do too* and *so do* ellipsis:

4a. Lucy submitted the manuscript unfinished, and Jan did Δ too. [OD]
b. Lucy submitted the manuscript in a mess, and so did Jan Δ.
5a. Lucy played the concerto nude, and Jan did Δ too. [SD]
b. Lucy played the concerto in a bad mood, and so did Jan Δ.

The argument goes as follows: if ellipsis involves VP construal, and if both SDs and ODs are construed as part of the elision site, then both must be inside VP.

There are problems for the claim that ellipsis establishes that SDs are within VP. First, like depictives, temporal adjuncts (TA) are construed as part of the elision:

6a. Lucy visited Alberta in the spring, and Jan did Δ too. [TA]
b. Lucy went to the rodeo on Tuesday, and so did Jan Δ.

Since it is generally agreed that temporal adjuncts are outside VP, this suggests that elision is not necessarily indicative of being within VP. Various authors have recognized this problem and proposed that temporal adjuncts adjoin inside or outside VP (Kuno 1975): if adjoined inside VP, they elide; if adjoined outside VP, they strand. But this leads to the stranding problem.

1.2 The stranding problem: *do* and *do so* ellipsis

With *do* and *do so* ellipsis, ODs don't strand, but SDs and temporal adjuncts do[1]:

7a. *Lucy submitted the manuscript unfinished, and Jan did badly typed. [OD]
b. *Lucy submitted the manuscript in a mess, and Jan did so in perfect condition.
8a. Lucy played the concerto nude, and Jan did fully clothed. [SD]
b. Lucy played the concerto in an evening dress, and Jan did so in a miniskirt.
9a. Lucy visited Alberta in the spring, and Jan did in the fall. [TA]
b. Lucy went to the rodeo on Tuesday, and Jan did so on Friday.

The ellipsis patterns in (4) - (9) lead to a paradox: if SDs are in VP, ellipsis conditions are unstatable. But if SDs are outside VP, and if two types of ellipsis are recognized—wide vs. narrow scope ellipsis—then ellipsis conditions are statable. This has two consequences. A binary branching version of Williams' 1980 proposal—ODs attach to VP, SDs to the clause—should be retained. And the internal subject hypothesis—according to which subjects are internal to VP—should be abandoned.

2. Some non-solutions

The first step is to establish that if SDs are generated in VP, there is no satisfactory solution to the stranding problem. Three types of solutions have been proposed: the non-uniform attachment solution, the bar-level solution, and the internal-subject solution.

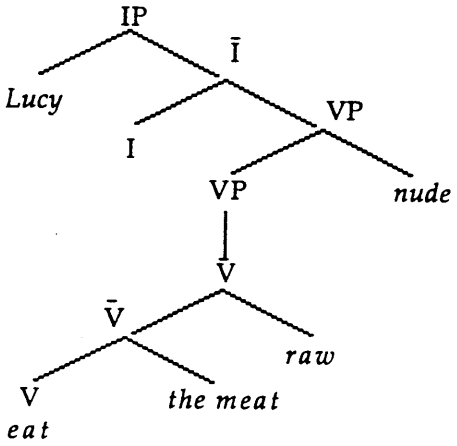
2.1 The non-uniform attachment solution

One approach to the stranding problem is to allow SDs to adjoin to VP or IP: if adjoined to VP, SDs elide; if adjoined to IP, SDs strand (Rochemont and Culicover 1990: 35). As for ODs, they always adjoin to VP. This permits a simple statement of ellipsis ("elide VP"). I call this the non-uniform attachment solution because it allows SDs to attach at different levels. Non-uniform attachment is inconsistent with predication as a structural relation: the null hypothesis is that wherever SDs are generated, they are always generated in the same position.

2.2 The bar-level solution

Another way to solve the stranding problem is to generate ODs and SDs within the V-projection, and to fix the bar-level at which they adjoin (Lobeck 1987, McNulty 1988): ODs are $\bar{V}$ adjuncts, SDs are VP adjuncts. Elision of $\bar{V}$ adjuncts is obligatory, while elision of VP adjuncts optional. I refer to this as the bar-level solution:

10.



10b. *condition on elision*:
$\bar{V}$ must elide (= OD)
VP may elide (= SD)

Elided VPs are reconstructed via the *derived VP rule* (Partee 1973, Wiliams 1977) which affixes a lambda and a variable to VP (λ-abstraction), and places the variable bound by the lambda in the position of the logical subject of the verb. If the bar-level solution is adopted, λ-abstraction must reconstruct the maximal $\bar{V}$ with ODs,

(11a). If only the minimal $\bar{V}$ were reconstructed, the OD would not be construed as part of the elision site, incorrectly yielding (11b).

11a. Lucy ate the meat raw, and Jan did Δ too. [OD]

a. Lucy [λx(x eat the meat raw)]$_{\bar{V}}$, and Jan did [λx(x eat the meat raw)]$_{\bar{V}}$ too

b. *Lucy [λx(x eat the meat]$_{\bar{V}}$ raw and Jan did [λx(x eat the meat)]$_{\bar{V}}$ too

With SDs, one must allow VP or $\bar{V}$ to reconstruct. If VP reconstructs, the SD is construed as part of the elision, (12a). If $\bar{V}$ reconstructs, the SD strands, (12b).

12a. Lucy played the concerto nude, and Jan did Δ too. [SD]

Lucy [λx(x play the concerto nude)]$_{VP}$, and

Jan did [λx(x play the concerto nude)]$_{VP}$ too.

b. Lucy played the concerto nude, and Jan did Δ fully clothed.

Lucy [λx(x play the concerto)]$_{\bar{V}}$ nude and...

Jan did [λx(x play the concerto)]$_{\bar{V}}$ fully clothed.

Under the bar-level solution, $\bar{V}$ and VP must always project. If SD occurs alone, an intervening $\bar{V}$ level must project, to ensure that SD can strand. If OD occurs alone, VP must project thereby identifying the maximal $\bar{V}$, and ensuring that ODs don't strand.

The bar-level solution also runs into problems with predication. If mutual c-command is adopted as a condition on predication, then neither ODs nor SDs are properly positioned. Under the first branching node definition of c-command, the OD c-commands the object, but the object doesn't c-command the OD; and although the subject c-commands the SD, the SD doesn't c-command the subject.

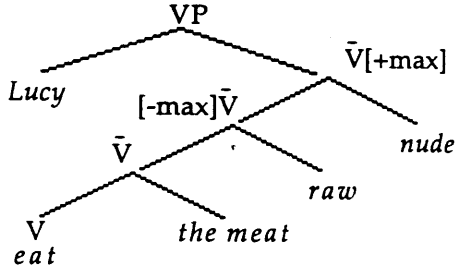
The problem is only partly solved by defining predication in terms of mutual m-command. This gives the rights results for ODs: the maximal projection dominating the object (=VP) also dominates OD, and the maximal projection dominating OD (=VP) also dominates the object. But SDs are still not licensed: the subject in [SPEC, IP] m-commands SD, but SD doesn't m-command the subject. Roberts 1988a tries to solve this by appealing to the Internal Subject Hypothesis (ISH), to be considered next.

2.2 The internal-subject solution

There are two versions of the ISH: subject in [SPEC, VP], or subject adjoined to VP. On either version of the ISH it is impossible to give a principled statement of the contexts which allow adjunct predicates to strand.

If the subject is in [SPEC, VP], then both SDs and ODs are within $\bar{V}$, (13a). This is essentially Roberts 1988a. Recall that $\bar{V}$ adjuncts obligatorily delete under ellipsis, incorrectly ruling out SD stranding. In order to capture the difference between ODs and SDs, one must stipulate that elision is sensitive to the distinction between non-maximal vs. maximal $\bar{V}$, (13b). A maximal $\bar{V}$ optionally deletes, a non-maximal $\bar{V}$ does so obligatorily. If a single adjunct predicate is present, be it an OD or an SD, it must be specified as a maximal or a non-maximal $\bar{V}$. Thus, the feature [±max] is not determined by phrase-structure, but is a diacritic indicating the elidablity of an adjunct and not distinct from a feature such as [±elidable]. This is clearly undesirable.[2]

13a.



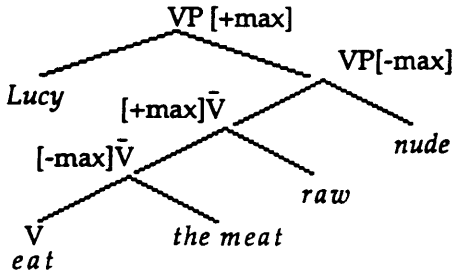
13b. *condition on elision*:

$\bar{V}$ [+max] may elide (= SD)

$\bar{V}$ [-max] must elide (= OD)

Under the other version of the ISH, the subject adjoins to VP, (14a). This wrongly predicts that both subjects and SDs, as VP adjuncts, will undergo ellipsis. One must again invoke a difference between maximal vs. non-maximal, this time at both the VP and the $\bar{V}$ level: the maximal VP (the VP which includes the subject) never elides; the non-maximal VP (the VP which excludes the subject but includes the SD) may elide; the maximal $\bar{V}$ (the $\bar{V}$ which includes the OD) must elide.[3]

14a.



14b. *condition on elision*:

VP [+max] never elides	(= subject)
VP [-max] may elide	(= SD)
$\bar{V}$ [+max] must elide	(= OD)

2.3 Unresolved

In addition to these mechanical problems, none of the solutions discussed above account for when stranding occurs. As summarized in (15), SDs strand with *do* and *do so* ellipsis, but not with *do too*, *do so too*, and *so do* ellipsis. This is accounted for if SDs and subjects are generated outside VP and if ellipsis has narrow scope (eliding VP) or wide scope (eliding VP and material outside VP).

15.

	SD strands	*OD strands*	
do	√	*	= NARROW SCOPE ELLIPSIS
do so	√	*	
do too	*	*	= WIDE SCOPE ELLIPSIS
do so too	*	*	
so do	*	*	

3. The adjunct site solution

A solution to the stranding problem is possible if ODs and SDs do not adjoin to the same projection: I call this the adjunct site solution. The adjunct site solution assumes the external subject hypothesis (Manfredi 1991, Déchaine 1993), whereby subjects are generated in a position external to VP. For purposes of discussion, this position can be identified with [SPEC, TP].[4] Generating subjects external to VP implies that subjects and objects are not licensed in the same way. After providing conceptual motivation for this, its consequences for the stranding problem are examined.

3.1 The external subject hypothesis

There are a number of ways in which the thematic properties of subjects differ from those of objects (Keenan 1976, Marantz 1984). This follows if thematic role assignment is distinguished from predication: V is related to the complement position via θ-role assignment (θ-relation), but to the subject position via predication (Π-relation). Thus, the complement of a Lexical head is licensed by the θ-relation, while non-complements are licensed by the Π-relation (Déchaine 1993):

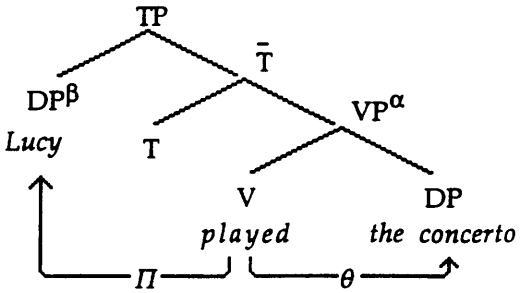
16a. *θ-related*: α is θ-related to β iff α is the complement-of β.

b. *Π-related* (Predication-related): α is Π-related to β iff β precedes α, β does not dominate α; γ, γ the local governing projection of β, does not exclude α; and there is no intervening position λ to which α is Π-related.

Intuitively, the Π-relation states that a predicate is related to a position that is contained in a projection that also contains the predicate. Applying these definitions to a specific example, in (17) [DP *the concerto*] is θ-related to [V *play*], while [DP *Lucy*]

is *Π*-related to [VP *play the concerto*]. The *Π*-relation is calculated as follows: let α be VP, and β be the DP in [SPEC, TP], i.e. the subject. β does not dominate α, and the local governing projection of β (TP) does not exclude α, and there is no intervening position to which α could be *Π*-related.[5]

17. *Lucy played the concerto.*

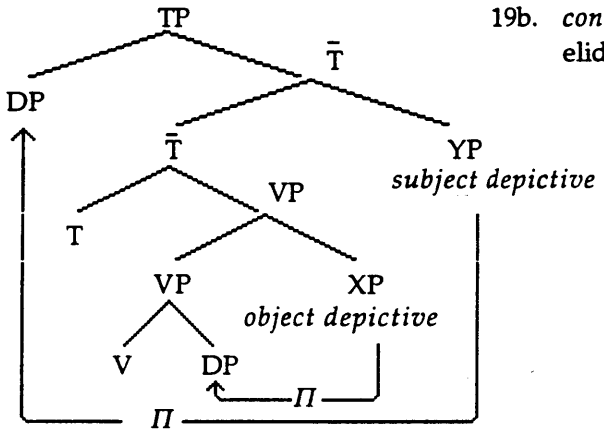


In order to be licensed, a predicate must be *Π*-related to a position outside of its Lexical projection, i.e. a predicate must have a *Π*-antecedent (Predication-antecedent):

18. *Π*-antecedent: if α is *Π*-related to β, then β is the *Π*-antecedent of α.

ODs are *Π*-related to the object position: the object precedes and does not dominate the OD, and the local governing projection of the object (=VP) does not exclude the XP position. SDs are *Π*-related to the subject position: the subject precedes and does not dominate the SD, and the local governing projection of the subject (=TP) does not exclude the SD. Now the condition on ellipsis is very easy to state: elide VP, (19b).

19a.



19b. *condition on elision*:
elide VP (= OD)

3.2 Why don't object depictives strand?

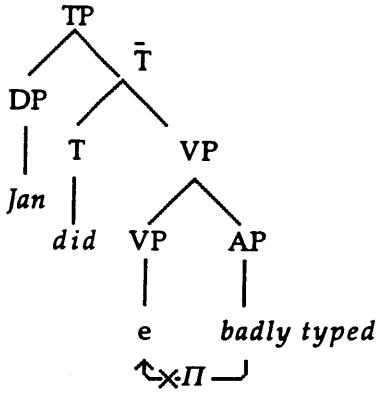
We have yet to determine why ODs don't strand, cf. (7) repeated from above. The *Π*-relation analysis could be supplemented with the stipulation that only maximal VP elides, reintroducing the problems attendant with the use of the feature [±max]. This is unnecessary since the *Π*-relation already provides a solution.

7a. *Lucy submitted the manuscript unfinished, and Jan did badly typed. [OD]

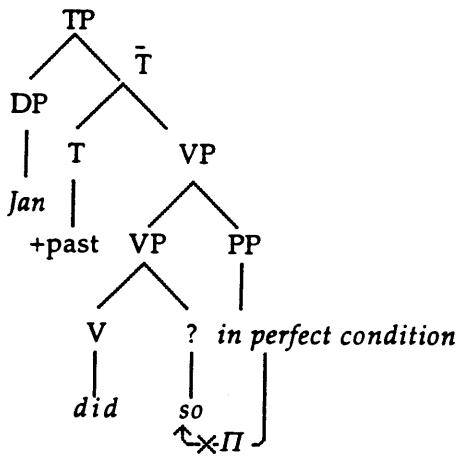
b. *Lucy submitted the manuscript in a mess, and Jan did so in perfect condition.

Anticipating the results of §3.3, *do* ellipsis has the structure in (7a'). In this structure the OD lacks a *Π*-antecedent: [VP *e*] is a potential *Π*-antecedent, but isn't of the appropriate category. As for *do so* ellipsis, it has structure (7b'), where *so* is a potential *Π*-antecedent for the OD, but not an appropriate one.

7a'.



7b'.



3.3 Why do subject depictives strand?

As for why SDs strand, this also follows from *Π*-relations. Notice that SD stranding is actually obligatory with *do* and *do so* ellipsis:[6]

20a. *Lucy played the concerto nude, and Jan did. [*do*]

b. Lucy played the concerto nude, and Jan did fully clothed.

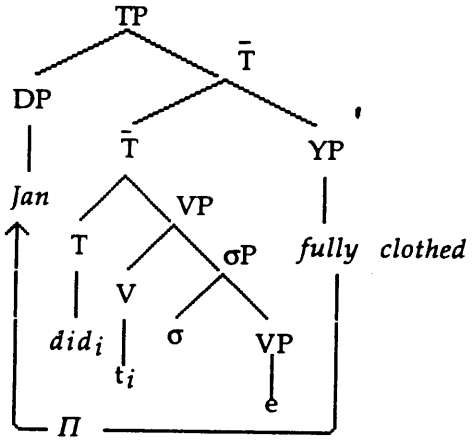
21a. *Lucy played the concerto nude, and John did so. [*do so*]

b. Lucy played the concerto nude, and John did so fully clothed.

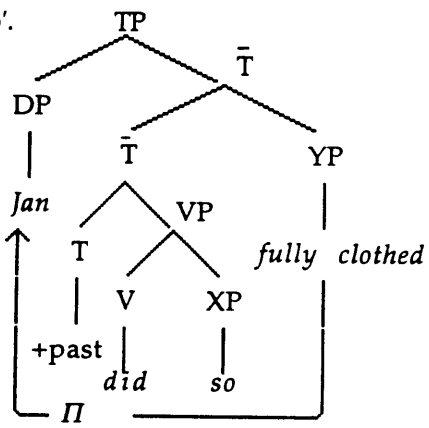
The fact that SDs obligatorily strand with *do* and *do so* has been accidentally supressed in the literature because sentences such as (20a) and (21a) are usually cited with sentence-final *too*.[7] (The contribution of *too* is discussed in §3.5.)

SD stranding is sensitive to the syntactic properties of the particles *so* and *too*: there is a correlation between the identity of the particle (*so*, *too*, ∅), its position relative to the subject, and the possibility of stranding. If these factors are controlled for, it emerges that SDs strand only if the elliptical operator has narrow scope, i.e. VP scope. The stranded SD is licensed because it has a *Π*-antecedent (the subject):

20b'.



21b'.



Although *do* and *do so* ellipsis both involve narrow scope ellipsis, the similarity ends there: the *do* of *do* ellipsis is in Tense (i.e. has the syntax of an auxiliary), while the *do* of *do so* ellipsis is in VP (i.e. has the syntax of a main verb). A number of diagnostics confirm this: co-occurrence with auxiliaries, interaction with negation/affirmation, Antecedent-Contained Deletion, selectional restrictions, small clause environments, and nominalizations. These are discussed in turn.

3.3.1 Co-occurrence with auxiliaries

The *do* of *do* ellipsis cannot be doubled by another *do*, nor does it occur with the verbal auxes *have* and *be*:

22a. He said he would change his socks, and he did [$_{VP}$ *e*]. [*do*]
b. *He said he would change his socks, and he did [$_{VP}$ do].[8]
c. *Before I could tell him to change his socks, he had [$_{VP}$ done].
d. *If you haven't unwrapped you sandwich, you should be [$_{VP}$ doing].

This constrasts with *do so* ellipsis, which can be doubled, and which occurs with auxiliary *have* and *be* (Hankamer & Sag 1976: 417, *fn.* 27):

23a. He said he would change his socks, and he [$_{VP}$ did so]. [*do so*]
b. He said he would change his socks, and he did [$_{VP}$ do so].
c. Before I could tell him to change his socks, he had [$_{VP}$ done so].
d. If you haven't unwrapped you sandwich, you should be [$_{VP}$ doing so].

On the basis of these differences, Hankamer & Sag conclude that the *do* of *do* ellipsis is an auxiliary, while the *do* of *do so* ellipsis is a verb. This can be restated in terms of the position occupied by *do*: the *do* of *do* ellipsis is in Tense, the *do* of *do so* ellipsis in V.

3.3.2 Negation and affirmation

The surface patterning of negation and affirmation with *do* and *do so* ellipsis confirms their structural difference. After establishing that negation and affirmation (σ) occupy the same syntactic position σ in English, I consider how σ interacts with ellipsis.

Along with negation, the affirmative particles *so* and *too* trigger *do*-support with a main verb, but a modal doesn't, (24). Negation and affirmation are analyzed as instantiating the same syntactic category, call it σ for statement (Gleitman 1969, Laka 1990). This captures the fact that negation and affirmation do not co-occur, (25).

24a. Lucy did not win the race.
Lucy did SO/TOO win the race!
24b. Lucy must not win the race.
Lucy will SO/TOO win the race!
25a. *Sal didn't SO/TOO win the race!
25b. *Sal won't SO/TOO win the race!

Where is σ? It suffices that it is between T and VP. This is consistent with the fact that σ doesn't follow a tensed main verb, nor does it precede a modal:

26a. *Sal won [$_{\sigma}$ not] the race.
*Sal won [$_{\sigma}$ SO] the race.
26b. *Sal [$_{\sigma}$ not] must win the race.
*Sal [$_{\sigma}$ SO] must win the race.

The *do* of *do* ellipsis directly inflects for negation, the *do* of *do so* triggers *do*-support:

27a. He said he would change his socks, but he didn't [$_{VP}$ *e*]. [*do*]
b. *He said he would change his socks, but he didn't [$_{VP}$ do].
28a. *He said he would change his socks, but he [$_{VP}$ didn't so]. [*do so*]
b. He said he would change his socks, but he didn't [$_{VP}$ do so].

A similar difference is found with the affirmative markers *SO* and *TOO*:

29a. He said he would change his socks, and he did SO/TOO [$_{VP}$ *e*]! [*do*]
b. *He said he would change his socks, and he did SO/TOO [$_{VP}$ do]!
30a. *He said he would change his socks, and he SO/TOO [$_{VP}$ did so]! [*do so*]
b. He said he would change his socks, and he did SO/TOO [$_{VP}$ do so]!

That the *do* of *do* ellipsis combines directly with σ (negation and affirmation) follows if it occupies Tense. That the *do* of *do so* ellipsis triggers do-support with σ follows it is in V. Accepting these two conclusions, a sequence such as *...did SO do so!* has the following structure, with the first *do* in Tense, and the second *do* in VP:

31. [$_{TP}$ Lucy $_{T}$did$_i$ [$_{VP}$ t$_i$ [$_{\sigma P}$ $_{\sigma}$SO [$_{VP}$ do so]]]]

3.3.3 Antecedent-contained deletion

Haïk 1987 argues that Antecedent-Contained Deletion (ACD) requires that the VP have no lexical content. Since the *do* of *do* ellipsis is in Tense, while that of *do so* ellipsis is in VP, this correctly predicts that only *do* ellipsis is possible:

32. I'll eat whatever you do/don't [VP *e*]. [*do* ellipsis]
33. *I'll eat whatever you [VP do so]. [*do so* ellipsis]

ACD actually requires the Lexical projection of the predicate to be null (rather than a null VP), as revealed by the patterning of non-V predicates. In the absence of another aux a non-V predicate occurs with inflected *be*, (34a). If an aux is present, uninflected *be* intervenes between the aux and the non-V predicate, (34b).

34a. Lucy is {an anarchist/fond of endives/against the war}.
b. Lucy will be {an anarchist/fond of endives/against the war}.

(38) indicates that *be* heads a V-projection independently of T (Heggie 1988, Déchaine 1993), and this V-projection intervenes between T and the Lexical predicate projection. This implies that the deletion site associated with ACD is the Lexical projection of the predicate. This is consistent with the fact that if an aux is present, uninflected *be* is obligatory with non-V predicates:

35a. Lucy is everything her mother was [NP *e*]. [*be* ellipsis]
Lucy is fond of everyone her mother is [AP *e*].
Lucy is against everyone her mother is [PP *e*].
b. Lucy is everything she can be [NP *e*].
Lucy is fond of everything she shouldn't be [AP *e*].
Lucy is against everything she should be [PP *e*].

Taken together, *do* and *be* ellipsis establish that ACD involves a null predicate projection. With main verbs, the null predicate projection is VP, yielding *do* ellipsis; with non-verbs the null predicate is Lexical projection, yielding *be* ellipsis. Exclusion of *do so* ellipsis from ACD contexts follows because there is no empty Lexical projection.[9]

3.3.4 Selectional restrictions

Another way in which *do* and *do so* ellipsis differ concerns their selectional restrictions. Based on the contrast between (36) and (37), Hankamer & Sag (1976: 417, *fn.* 27) conclude that "*do so*...can serve as an anaphor only for active (i.e. nonstative) VPs", ascribing this to the fact that *do so* "involves a genuine verb *do*".

36a. I expected her to know the answer, and she did [VP *e*]. [*do*]
b. I expected the number to divide evenly by 17, and it did [VP *e*].
37a. *I expected him to know the answer, and he [VP did so]. [*do so*]
b. *I expected the number to divide evenly by 17, and it [VP did so].

Hankamer & Sag's observation is correct, namely that *do so* ellipsis occurs with a more restricted set of verbs that does *do* ellipsis, but the division of labour is more fine-grained. As discussed by Quirk *et al.* (1972: 690*f.*), *do so* ellipsis is possible with activity, accomplishment ("momentary") and delimited ("transitional" and "process") verbs, but it fails with raising verbs ("verbs of bodily sensation"), psych verbs ("verbs of inert perception and cognition"), as well as stative verbs ("relational verbs"):

38a. A: John abandoned his car. B: I wonder why he did (so).
b. A: Bob kicked in the door. B: He always does (so) when he's upset.
c. A: The old man fell. B: I'm sorry to hear that he did (so).
d. A: That bus slowed down. B: I find it odd that it did (so).
e. A: John feels much better. B: I know he does (*so).
f. A: They think he is mad. B: We do (*so) as well.
g. A: He owns a Cadillac. B: Yes, he does (*so).

(39), adapted from Quirk *et al.* (1972: 691, table 10:2), shows that ellipsis constructions fall into two broad classes. If *do* is in Tense and VP is null (as with *do*, *so do* and *so...do* ellipsis), there is no sensitivity to verbal semantics. If *do* is inside VP (as with *do so*, *do that*, and *do it* ellipsis), then ellipsis is semantically restricted.[10]

39.

verb type	[T *do*]			[VP *do* ...]		
	DO	SO DO	SO...DO	DO SO	DO THAT	DO IT
activity	√	√	√	√	√	√
momentary	√	√	√	√	√	√
transitional event	√	√	√	√	√	
process verbs	√	√	√	√	√	
bodily sensation	√	√	√			
perception/cognition	√	√	√			
relational	√	√	√			

3.3.5 Compatibility with bare predicates

Compatibility with bare uninflected predicates distinguishes *do* from *do so* ellipsis (Quirk *et al.* 1972). Since bare predicates are not associated with morphological tense, this predicts that the *do* of *do* ellipsis, which occupies Tense, will be impossible, (40). Conversely, since the *do* of *do so* ellipsis is inside VP, it is licit, (41).

40. A: Peter hunts rabbits.
*B: I have seen him [do].
*B: His father makes him [do].

41. A: Peter hunts rabbits.
B: I have seen him [VP do so].
B: His father makes him [VP do so].

3.3.6 Nominalization

The final syntactic environment to be considered is *-ing* nominalizations, which are compatible only with *do so* ellipsis, (42). This follows if VP is nominalized, and *do so* is a VP anaphor. (See Fu and Roeper 1994 for more extensive discussion.)

42a. *Lucy's playing the concerto nude and Jan's [VP doing] clothed surprised us. [SD]
b. Lucy's playing the concerto nude and Jan's [VP doing so] clothed surprised us.

To sum up the results of this section: *do* and *do so* ellipsis both allow SD stranding (narrow scope ellipsis), but several diagnostics establish that they differ in internal structure. The *do* of *do* ellipsis is in Tense, the *do* of *do so* ellipsis in VP.

3.4 What strands and when?

Having established that SDs strand, this raises the question of what other types of adjuncts strand, and under what conditions. In order to address this, it is necessary to have a more explict notion of what constitutes an elliptical construction. I adopt the following working definition, from Dalrymple *et al.* 1991:

43. *elliptical construction*$_{df}$: Two clauses that are parallel in structure in some sense. The antecedent or *source* clause is complete, whereas the *target* clause is missing (or contains vestiges of) material found overtly in the source.

Looking first at when stranding occurs, all the examples considered so far have had an adjunct present in both the source clause (the first conjunct) and the target clause (the second conjunct), corresponding to (44a). There are two other possibilities. The target clause can introduce an adjunct that is not present in the source clause (Dalrymple *et al.* 1991: 409), as in (44b). Or the source clause could have an adjunct that is absent from the target clause, as in (44c). This third possibility is unattested.

44a. [*source clause*] [*Adjunct*] & [*target clause*] [*Adjunct*]
b. [*source clause*] & [*target clause*] [*Adjunct*]
c. *[*source clause*] [*Adjunct*] & [*target clause*]

Examples corresponding to these possibilities are given in (45). In (45a), both the source and the target contain an adjuncts. In (45b), the target contains an adjunct not present in the source. And in (45c), the target clause suppresses an adjunct present in the source.

45a. Lucy played the concerto nude, and Jan did [VP *e*] fully clothed. [SD]
b. Lucy didn't play the concerto, but Jan did [VP *e*] in a bad mood.
c. Lucy played the concerto nude, but Jan didn't [VP *e*].
= '...but Jan didn't play the concerto nude'
≠ '...but Jan didn't play the concerto'

The contrast between (45b) and (45c) shows that the target can introduce adjuncts, but not eliminate them, i.e. a *Π*-relation may be introduced, but not eliminated.

As for what strands, in addition to SDs and temporal adjuncts, a number of other adjuncts strand, including instrumentals, locatives and rationale clauses (Kuno 1975, Lobeck 1986, Rochemont & Culicover 1990). They show the same behavior as SDs: both the source and target contain an adjunct, or the target introduces an adjunct not present in the source, but the target can't suppress an adjunct present in the source, cf. (46) - (48).[11] By hypothesis, any adjunct which strands under ellipsis is outside VP. So, instrumentals, locatives and rationale clauses are VP-external.

46a. Lucy ate the rice with a fork, and Jan did [VP *e*] with chopsticks. [Instr.]
b. Jim couldn't open the door, but Polly did [VP *e*] with her blowtorch.
c. Jim can't open the door with a blowtorch, but Polly can [VP *e*].
= '...but Polly can open the door with a blowtorch'
≠ '...but Polly can open the door'

47a. Lucy didn't visit museums in Toronto, but she did [VP *e*] in Montreal. [Loc.]
b. Lucy usually doesn't visit museums, but she did [VP *e*] in Montreal.
c. Lucy usually doesn't visit museums in Paris, but Jan does [VP *e*].
= '...but Jan usually visits museums in Paris'
≠ '...but Jan usually visits museums'

48a. Lucy dresses to impress colleagues, and Jan does [VP *e*] to please her mom. [RC]
b. Lucy won't dress up, but Jan will [VP *e*] to please her mom.
c. Lucy dresses to impress colleagues, but Jan doesn't [VP *e*].
= '...but Jan doesn't dress to impress colleagues'
≠ '...but Jan doesn't dress'

3.5 Why do subject depictives elide?

We now confront the stranding problem in a different guise. The *Π*-relation analysis, according to which ODs are VP-internal and SDs VP-external, correctly predicts that ODs will not strand with ellipsis, and that SDs will. But the *Π*-relation analysis fails to predict that SDs can undergo elision, as they must with *do too* and *so do* ellipsis. The previous section proposed that *do* and *do so* ellipsis are instances of narrow scope ellipsis in which the elision site is restricted to VP, thereby stranding all VP-external adjuncts. I now show that *do too* and *so do* ellipsis correspond to wide scope ellipsis, licensing elision of all predicative projections in the clausal domain. Although the surface effects of *do too* and *so do* ellipsis are similar, they arise in different ways. *Do too* is discussed first, then *so do*.

3.5.1 *do too* ellipsis

With *do too* ellipsis, SDs elide obligatorily:

49a. Lucy played the concerto nude, and Jan did Δ too. [*do too*]
b. *Lucy played the concerto nude, and Jan did Δ fully clothed too.

Hankamer & Sag 1976 propose that *too* requires that whatever is predicated of the subject of the source clause also be predicated ot the subject of the target clause. I implement their idea as follows. In line with a number of recent proposals (Munn 1989, Zonneveld 1992, Williams 1994), *and* is analyzed as the head of &P. Syntactically, *too*

is an adjunct to &P (Déchaine 1993) which imposes structural paralellism between conjoined clauses:

50. *structural parallelism requirement:*
if *too* is present, the source and target must be structurally parallel

There are four cases to consider. Parallelism is satisfied if neither the source nor the target has an adjunct, (51a); or if both source and target have a VP-external adjunct, (51b). Parallelism is violated if a VP-external adjunct is present only in the target, (51c); or only in the source, (51d).

51a.	[*source clause*]	&	[*target clause*]		too
b.	[*source clause*] [*Adjunct*]	&	[*target clause*]	[*Adjunct*]	too
c.	*[*source clause*]	&	[*target clause*]	[*Adjunct*]	too
d.	*[*source clause*] [*Adjunct*]	&	[*target clause*]		too

That structural parallelism is an additional constraint imposed on ellipsis constructions is shown by the fact that the configuration corresponding to (51c) is a well-formed ellipsis, cf. (45b) - (48b), but is ill-formed in contexts where structural parallelism holds, as it does with *too*.

Consider examples corresponding to (51). In (51a'), source and target are parallel as neither has a VP-external adjunct. In (51b'), both source and target have a VP-external adjunct, in this case an SD. This corresponds to wide scope ellipsis: both the VP and the SD are reconstructed, the former via the normal application of the *derived VP rule* (or its equivalent), the latter via structural parallelism.

51a'. Lucy [VP ate Belgian endives], and Jan did [VP *e*] too.
Lucy [VP ate Belgian endives], and Jan will [VP do so] too.
Lucy [VP ate the Belgian endives raw], and Jan did [VP *e*] too.

51b'. Lucy [VP ate Belgian endives] [YP for lunch], and Jan did [VP *e*] [YP *e*] too.

Parallelism can be violated in one of two ways. (The locus of non-parallelism is indicated in **shadow** characters.) In (51c'), the target contains a VP-external adjunct not contained in the source. In (51d') the source contains a VP-external adjunct not contained in the target. (This last example is independently ruled out by the fact that ellipsis does not eliminate *Π*-relations , cf. (44c) above.)

51c'. *Lucy [VP ate Belgian endives], and Jan did [VP *e*] [YP **for supper**] too.

51d'. *Lucy [VP ate Belgian endives] [YP **for lunch**], and Jan did [VP *e*] too.
≠ '...and Jan ate Belgian endives too'

The structural parallelism enforced by *too* also correctly rules out cases where movement to Comp has occurred in the target but not the source:

52. *Lucy [T *past*] ate the pasta, and so [C **did**] Jan [T *t*] [VP *e*] too.
*Lucy [T *past*] ate the pasta cold, and so [C **did**] Jan [T *t*] [VP *e*] too.
*Lucy [T *past*] ate pasta for lunch, and so [C **did**] Jan [T *t*] [VP *e*] [YP *e*] too.

3.5.2 *so do* ellipsis

Wide scope ellipsis, where the VP and the VP-external adjunct are reconstructed, also occurs with *so do* ellipsis:

53a. Lucy played the concerto nude, and so did Jan [VP *e*] [YP *e*]. [*so do*]
b. *Lucy played the concerto nude, and so did Jan [VP *e*] [YP fully clothed].

The wide scope of *so do* ellipsis follows from the fact that *so* is in [SPEC, CP], from where it licenses reconstruction of all predicative positions:

53a'. Lucy [VP played the concerto] [YP nude]
and [CP so [C did$_i$] [TP Jan [T t$_i$] [VP *e*] [YP *e*]]]

That the *so* of *so do* is in CP is consistent with the fact that it may be followed by parenthetical material, (54). Also, as observed by Hankamer & Sag 1976, this *so* does not co-occur with an overt Comp, (55).

54. Lucy played the concerto nude, and so, for that matter, did Jan [VP *e*].

55a. Sam [said that Lucy played the concerto nude], and so did Jan [VP *e*].

b. *Sam said that [Lucy played the concerto nude], and that so did Jan [VP *e*].

4. Proliferating consequences

Starting with the observation that in ellipsis constructions SDs strand but ODs don't, I argued that this is consistent with an analysis which positions SDs external to VP, and ODs internal to VP. Observing further that the possibility of stranding is sensitive to the presence of particles such as *so* and *too*, two types of ellipsis were distinguished.

Narrow scope ellipsis—*do* and *do so* ellipsis—elides VP and strands VP-external adjuncts, including SDs, temporal adjuncts, instrumentals, locatives, and rationale clauses. It was further shown that the *do* of *do* ellipsis is in Tense, while the *do* of *do so* ellipsis is in VP.

Wide scope ellipsis—*do too* and *so do* ellipsis—forces reconstruction of the VP and VP-external adjuncts, so that SDs (as well as temporal adjuncts, instrumentals, locatives, and rationale clauses) are construed as part of the elision. Two different mechanisms license wide scope ellipsis. *Too*, an adjunct to &P, requires source and target to be structurally parallel, so that a VP-external adjunct in the source is obligatorily reconstructed in the target. As for the *so* of *so do* ellipsis, it occupies an operator position in [SPEC, CP], from where it licenses reconstruction of all predicative positions.

In the remainder of this last section, I consider some consequences of the proposed analysis. §4.1 establishes that negation manifests a narrow scope/wide scope distinction with respect to ellipsis. §4.2 establishes one must distinguish between semantic predicate conjunction and syntactic coordination. §4.3 looks at the other "VP tests" (*though*-preposing, *wh*-clefting, "VP" preposing) which have been taken as evidence for positioning SDs in VP. §4.4 closes the discussion with an appraisal of the VP-internal subject hypothesis.

4.1 Negation

The parallels between *do/don't* ellipsis, *do too/didn't either* ellipsis, and *so do /neither do* ellipsis are consistent with the broader claim that affirmation and negation instantiate the same syntactic category (Gleitman 1969, Laka 1990).

Corresponding to narrow scope *do* ellipsis, *don't* ellipsis strands SDs:

56a. *Lucy didn't play the concerto in a miniskirt, and Jan didn't [VP *e*].

b. Lucy didn't play the concerto in a miniskirt, and Jan didn't [VP *e*] in a tuxedo.

Like wide scope *do too* ellipsis, *didn't either* ellipsis imposes structural parallelism:

57a Lucy didn't play the concerto in a miniskirt, and Jan didn't [VP *e*] [VP *e*] either.

b. *Lucy played the concerto in a miniskirt, and Jan didn't [VP *e*] in a tuxedo either.

Like wide scope *so do* ellipsis, *neither do* ellipsis obligatorily reconstructs the VP and the VP-external adjunct:

58a. Lucy didn't play the concerto in a miniskirt, and neither did Jan [VP *e*] [VP *e*].

b. *Lucy didn't play the concerto in a miniskirt,
...and neither did Jan [VP *e*] in a tuxedo.

4.2 λ–abstraction

To account for the possibility that SDs strand, the subject must be λ-abstracted from the VP and the SD independently. With wide scope ellipsis, the contents of the source VP

and the source adjunct are both reconstructed, (59). With narrow scope ellipsis, only the contents of the source VP are reconstructed, (60).

59a. Mary played the concerto nude, and Sue did too. [SD]
b. Mary [λx(x play the concerto)]$_{VP}$ & Mary [λx(x nude)]$_{YP}$, and...
Sue did [λx(x play the concerto)]$_{VP}$ & Sue [λx(x nude)]$_{YP}$ too.

60a. Mary played the concerto nude, and Sue did fully clothed.
b. Mary [λx(x play the concerto)]$_{VP}$ & Mary [λx(x nude)]$_{YP}$, and...
Sue did [λx(x play the concerto)]$_{VP}$ & Sue [λx(x fully clothed)]$_{YP}$.

The possibility of λ-abstracting each predicate does not carry over to syntactic coordination. If it did, it would derive the ill-formed (62).

61a. Mary writes novels and criticizes poetry, and Sue does too.
b. Mary [λx(x write novels and criticize poetry)]$_{VP}$, and...
Sue does [λx(x write novels and criticize poetry)]$_{VP}$ too.

62a. *Mary writes novels and criticizes poetry, and Sue does and reviews films.
b. Mary [λx(x write novels)]$_{VP}$ and Mary [λx(x criticize poetry)]$_{VP}$, and...
Sue does [λx(x write novels)]$_{VP}$ and Sue [λx(x review films)]$_{VP}$.

This points to a fundamental difference betwen semantic predicate conjunction vs. syntactic coordination. SD stranding requires that each predicate be λ-abstracted independently, to derive (60). But syntactic coordination requires that VPs be λ-abstracted together, an instance of the Aross-the-Board constraint (Williams 1978).

4.3 The other "VP tests"

Ellipsis constructions do not establish that SDs are in VP. Other "VP tests" invoked by Andrews 1982 to support the claim that SDs are in VP include *though*-preposing, *wh*-clefting, and "VP" preposing:

63a. Submit the book unfinished though Jan did, it was still accepted. [OD]
b. What Jan did was submit the book unfinished.
c. Fred said that Jan would submit the book unfinished,
...and submit the book unfinished she did.

64a. ?Write the letter angry though Jan did, nobody held it against her. [SD]
b. What Jan did was write the letter angry.
c. Fred predicted that Jan would write the letter in a bad mood,
...and write the letter in a bad mood she did.

The form of the argument is by now familiar: since ODs and SDs pattern in the same, and since ODs are in VP, it is claimed that SDs must also be in VP.

As expected under any analysis, ODs fail to strand:

65a. *Submit the book though Jan did unfinished, it was still accepted. [OD]
b. *What Jan did unfinished was submit the book.
c. *Fred said that Jan would submit the book unfinished,
...and submit the book she did unfinished.

SDs fail to strand with *though*-preposing, but do strand with *wh*-clefting and VP preposing:

66a. *Write the letter though Jan did angry, nobody held it against her. [SD]
b. ?What Jan did angry was write the letter.
c. ?Fred predicted that Jan would write the letter in a bad mood,
...and write the letter she did in a bad mood.

At present, I have no account for the ill-formedness of (66a), but (66b) and (66c) are reminiscent of the ellipsis facts. Why (66b) and (66c) are marginal instead of perfect is unclear. A possible answer lies in the fact that these constructions are highly sensitive

to shifts in information structure (Rochemont & Culicover 1990). I therefore conclude that these constructions fail to establish that SDs are inside VP.

4.4 Why VP-internal subjects?

If SDs are outside VP, and if predication is configurational, then subjects must also be outside VP. This directly challenges the VP-internal subject. As far as I can determine, four types of arguments have been put forward in support of VP-internal subjects: the positional argument, the projection argument, the quantification argument, and the binding argument.

The positional argument is based on the observation that some subjects occupy a position lower than the canonical subject position (Koopman & Sportiche 1990). It is assumed that this lower subject position is within the Lexical projection, i.e. within VP. These analyses were formulated with the assumption that there is a single Functional projection above VP, namely IP/TP. If the lower subject position corresponds to a Functional projection which intervenes between IP/TP and VP, this calls into question the necessity of VP-internal subjects.

The projection argument is based on the assumption that all arguments are projected within the Lexical projection (Speas 1990). Given the evidence that subjects/external arguments project differently from complements/internal arguments (Keenan 1976, Marantz 1984), this casts doubt on the conceptual necessity of projecting all arguments within VP.

The quantification argument is based on the fact that bare plurals in subject position are assigned an existential reading with stage-level predicates. Together with the assumption that the domain of existential closure is the VP (Diesing 1992), this leads to the conclusion that subjects are VP-internal at some level of representation. But this depends on a particular algorithm for determining the quantificational force, specifically that existential closure is at the VP level. It is conceivable that these interpretive effects can be accounted for without appealing to VP-level existential closure.

The binding argument is based on the fact that while fronted arguments can reconstruct to intermediate positions they have moved through, fronted predicates always reconstruct to their base positions , cf. (67) vs. (68).

67. Which pictures of himself$_{i/j}$ did John$_i$ think Bill$_j$ saw?

68. Criticize himself$*_{i/j}$, (John$_i$ thinks) Bill$_j$ will.

Huang 1993 accounts for the restriction on predicate reconstruction by appealing to the presence of VP-internal subject position which binds the anaphor:

68'. [VP t_j [$\bar{V}$ criticize himself$_j$]], (John$_i$ thinks) Bill$_j$ will [VP *e*].

Positing a VP-internal subject is consistent with (68), but alternative analyses are available that don't resort to the ISH. And, it is doubtful that "predicate fronting" reduces to "VP fronting", since SDs may front or strand:

69a. Play the concerto nude, (John thinks) Mary will.

b. Play the concerto, (John thinks) Mary will, nude.

To conclude. The following claims have been defended. One, *do* and *do so* ellipsis have narrow scope: only VP elides, stranding VP-external adjuncts. Two, *do too* and *so do* ellipsis have wide scope, licensing the reconstruction of VP and VP-external adjuncts. Three, SDs are generated outside VP. Four, subjects are generated outside VP.

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[1]The possibility of stranding temporal adjuncts with *do so* ellipsis was noted by Lakoff & Ross 1966, as cited by Kuno (1975: 166), Emonds (1976: 178), and Jackendoff (1977: 58).

[2]This version of the ISH must stipulate that ODs adjoin before SDs, to prevent **Lucy ate the meat naked raw.*

[3]Quirk et *al.* 1972 observe that subject ellipsis is possible with *and, or, but, yet, so* and *then*, (i). This type of subject ellipsis is not possible with VP ellipsis, (ii). See van Valin 1986, Godard 1989, Burton & Grimshaw 1992, McNally 1992.

i. They didn't like it, {and/but/yet/so} (they) said nothing.
They didn't like it, or (they) would have said something.

ii. She liked it, {and/but/yet/so} *(she) didn't Δ.
She liked it, or *(she) would have Δ.

[4]Additional Functional projections may intervene between Tense and VP, with the subject generated in the SPEC of these intervening F-projections.

[5]The *Π*-relation is a binding relation between an DP and a predicate, cf. Déchaine 1993.

[6]Stranding is also possible with gapping. Both complement and adjunct PPs can be the residue of gapping (Hankamer 1973: 31, 34), cf. (i) and (ii). Hankamer observes that with adjunct PPs, gapping is more felicitous with a generic VP, cf. (iii) and (iv).

i. Max wanted to put the eggplant on the table, and Harvey in the sink.
= and [Max wanted to put] Harvey in the sink.

ii. ?Max writes plays in the bedroom, and Harvey in the basement.

iii. ??Max is writing a play in the bedroom, and Harvey in the basement.

iv. ???Max is memorizing the play in the bedroom, and Harvey in the basement.

[7]I. Sag (p.c.) observes that *do* ellipsis takes wide scope with consecutive *then* or exceptive *but* (which also signals a change in polarity), cf. (i). I take the core case of *do* ellipsis to be (20). *Then* and *but* seem to induce a parallelism constraint like the one associated with *too* (cf. §3.5.1).

i. Lucy played the concerto nude,... {and then Jan did/but Jan didn't}.

[8]*Do* doesn't occur with auxes in American English, but does in British English (Quirk et *al.* 1972: 687, Huddleston 1978, Déchaine 1993).

			AmE	*BrE*
i.	He said he would change his socks,	...and he did [VP do].	*	√
ii.		...and he may [VP do].	*	√
iii.		...and he may have [VP done].	*	√

[9]Dalrymple *et al.* (1991: 408) report that ACD is possible with *do too* ellipsis: ?*John greeted every person that Bill did too.* The goodness of *do too* with ACD follows if *too* is outside VP, adjoined to Conjunction Phrase (&P), cf. §3.5.1.

[10](39) doesn't converge with Hankamer & Sag's 1976 distinction between deep vs. surface anaphora. H&S derive surface anaphors by deletion under identity (*do* and *do so* ellipsis), and base-generate deep anaphors (*do it* ellipsis). Surface anaphors don't allow pragmatic control or non-structurally parallel antecedents, but deep anaphors do. Surface anaphors do allow missing antecedents, but deep anaphors don't. Of interest is the fact that although *do so* and *do it* are both in VP, [VP*do so*] patterns with [T*do*] with respect to H&S's criteria. Contra H&S, *do so* ellipsis does allow non-structurally parallel antecedents (Dalrymple *et al.* 1991: 440).

[11]Chao (1987: 23) cites similar examples with gapping, (i). This type of stranding requires the presence of *too*. As expected ODs can't strand (ii), but SDs, instrumentals and locatives do (iii) - (v). The non-stranding of rationale clauses is a puzzle, (vi).

i. Lucy sings, and Δ very well] too.

ii. *Lucy ate her pasta, and Δ very cold too.

iii. Lucy played the concerto, and Δ in a bad mood too.

iv. Lucy built that house, and Δ with her bare hands too.

v. Lucy was robbed, and Δ in Paris too.

vi. *Lucy dressed up, and Δ to please her mother too.

References

Andrews, A. 1982 A note on the constituent structure of adverbials and auxiliaries, *Linguistic Inquiry* 13: 313-17.

Bolinger, D. 1970 The meaning of *do so*, *Linguistic Inquiry* 1: 140-44.

Burton, S. & J. Grimshaw 1992 Coordination and VP-internal subjects, *Linguistic Inquiry* 23: 305-13.

Chao, W. 1987 *On ellipsis*, University of Massachusetts, Amherst dissertation.

Chomsky, N. 1993 A minimalist program for linguistic theory, in K. Hale & S. J. Keyser (eds.) *The View From Building 20*, pp. 1-52. Cambridge, Mass.: M. I. T. Press.

Cremers, C. 1993 *On parsing coordination categorially*, Leiden University dissertation.

Déchaine, R.-M. 1993 *Predicates across categories: towards a category-neutral syntax*, University of Massachusetts, Amherst dissertation.

Dalrymple, M., S. M. Shieber, & F. C. N. Pereira 1991 Ellipsis and higher-order unification, *Linguistics and Philosophy* 14: 399-452.

Diesing, M. 1992 *Indefinites*. Cambridge, Mass.: M. I. T. Press.

Emonds, J. E. 1976 *A Transformational Approach to English Syntax*. New York: Academic Press.

Fu, J. & T. Roeper 1994 The VP within nominalizations: evidence from adverbs and the VP anaphor *do-so*, paper presented at the *Workshop on the Syntax-Morphology Connection*, M. I. T., January 4th.

Gleitman, L. R. 1969 Coordinating conjunctions in English, in D. A. Reibel & S. A. Schane (eds.) *Modern Studies in English*, pp. 80-112. Englewood Cliffs, New Jersey: Prentice-Hall.

Godard, D. 1989 Empty categories as subjects of tensed Ss in English or French?, *Linguistic Inquiry* 20: 497-506.

Haïk, I. 1987 Bound VPs that need to be, *Linguistics and Philosophy* 10: 503-30.

Hankamer, J. 1973 Unacceptable ambiguity, *Linguistic Inquiry* 4: 17-68.

Hankamer, J. and I. Sag 1976 Deep and surface anaphora, *Linguistic Inquiry* 7: 391-426.

Huang, J. 1993 Reconstruction and the structure of VP, *Linguistic Inquiry* 24: 103-38.

Huddleston, R. 1978 On the constituent structure of VP and Aux, *Linguistic Analysis* 4: 31-59.

Jackendoff, R. 1972 *Semantic Interpretation in Generative Grammar*. Cambridge, Mass.: M. I. T. Press.

_____ 1977 *$\bar{X}$-bar syntax*. Cambridge, Mass.: M. I. T. Press.

Keenan, E. 1976 Towards a universal definition of "subject", in C. Li (ed.) *Subject and Topic*, pp. 303-33. New York: Academic Press

Kitagawa, Y. 1991 Copying identity, *Natural Language and Linguistic Theory* 9: 497-536.

Koopman, H. & D. Sportiche 1990 The position of subject, *ms.*, University of California, Los Angeles.

Kuno, S. 1975 Conditions for verb phrase deletion, *Foundations of Language* 13: 161-75.

Laka, I. 1990 *Negation in syntax*, M. I. T. dissertation.

Lakoff, G. & J. R. Ross 1966 Criterion for verb phrase constituency. *Mathematical Linguistics and Automatic Translation*, Report NSF-117, Aiken Computational Laboratory, Harvard University.

Lappin, S. 1984 VP anaphora, quantifier scope, and Logical Form, *Linguistic Analysis* 13: 273-315.

Lobeck, A. 1986 *Syntactic constraints on VP anaphora*, University of Washington, Seattle dissertation.

Manfredi, V. 1991 *Ágbò and Ẹ́hụgbò: Ìgbo linguistic consciousness, its origins and limits*, Harvard University dissertation.

Marantz, A. 1984 *On the Nature of Grammatical Relations*. Cambridge, Mass.: M. I. T. Press.

May, R. 1985 *Logical Form: Its Structure and Derivation.* Cambridge, Mass.: M. I. T. Press.

McNally, L. 1992 VP Coordination and the VP-internal subject hypothesis, *Linguistic Inquiry* 23: 336-41.

McNulty, E. 1988 *The syntax of adjunct predicates,* UConn dissertation.

Munn, A. 1989 Coordinate structures, X-bar theory and parasitic gaps, *ms.* University of Maryland.

Quirk, R., S. Greenbaum & G. Leech 1972 *A Grammar of Contemporary English.* London: Longman.

Roberts, I. 1988a Predicative APs, *Linguistic Inquiry* 19: 703-10.

_____ 1988b Thematic minimality, *Rivista di grammatica generativa* 13: 111-37.

Rochemont, M. S. and P. W. Culicover 1990 *English Focus Constructions and the Theory of Grammar.* Cambridge University Press.

Rothstein, S. 1983 *The syntactic forms of predication,* M. I. T. dissertation.

Speas, M. 1990 *Phrase Structure in Natural Language.* Dordrecht: Kluwer.

Valin, R. D. van 1986 An empty category as the subject of a tensed S in English, *Linguistic Inquiry* 17: 581-86.

Williams, E. S. 1977 Discourse and logical form *Linguistic Inquiry* 8: 101-39.

_____ 1978 Across-the-board rule application, *Linguistic Inquiry* 9: 31-43.

_____ 1980 Predication, *Linguistic Inquiry* 11: 203-38.

_____ 1994 *Thematic Structure in Syntax.* Cambridge, Mass.: M. I. T. Press.

Wyngaerd, G. vanden 1993 Small clause theory and complex predicate formation. In *Totally Affected: a collection of twelve short articles by students of Teun Hoekstra, written at the occasion of his fortieth birthday,* pp. 15-16. Department of Linguistics, Leiden University.

Zonneveld, R. van 1992 X-bar syntax and coordination, *Language and Cognition* 2: 332-47. (Yearbook of the Research Group for Linguistic Theory and Knowledge Representation, University of Groningen.)

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